

CLAIMS

What is claimed is:

1. A method for processing network layer messages within a wireless communication system, the network layer including within it certain functional layers, including a radio resource function, a mobility management function, and a connection management function with at least the radio resource function being normally assumed to be a transport mechanism for the mobility management and connection management functions, the method comprising the steps of:
- 10 examining a network layer message to determine, prior to routing it to any functional layer, whether it is associated with connection management, mobility management, or radio resource management; and
- routing the message directly to the respective connection management, mobility management, or radio resource management functional layer, directly
- 15 and without passing the message between functional layers.
2. A method as in claim 1 wherein the steps of examining and routing the message are performed within a network layer thread as the message is first received by the network layer.
3. A method as in claim 1 wherein the steps of examining and routing the message are performed within a lower layer thread as the message is passed up to
- 20 the network layer by the lower layer.
4. A method as in claim 1 wherein the step of examining only processes messages traveling in an uplink direction from a mobile station towards network subsystem components.

5. A method as in claim 4 additionally comprising the step of:
for messages traveling in a downlink direction from network subsystem
components towards the mobile station;
processing downlink network layer messages in a direct manner such that
the network layer messages do not step through other layer protocol stacks.
6. A method as in claim 5 additionally comprising the step of directly routing
network layer messages that do not require acknowledgment.
7. A method as in claim 5 wherein downlink network layer messages that comprise
connection management messages are first routed to the mobility management
function.
8. A method as in claim 3 wherein network layer messages that comprise mobility
management messages are first routed to the radio resource function.
9. A method as in claim 1 wherein the steps of examining a network layer message
and routing the message directly to the respective functional layer are performed
in a subsystem incorporating Base Transceiver System (BTS), Base Station
Controller (BSC), and Mobile Switching Center Subsystems (MSC).
10. A method as in claim 1 wherein the steps of examining the network layer
message and routing the message directly to the respective functional layer are
performed in a mobile station (MS).

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